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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/023,259 02/13/98 RITCHIE W 1646-007A

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EXAMINER

THOMAS, J

ART UNIT

PAPER NUMBER

2747

DATE MAILED:

06/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/023,259

Applicant

RITCHIE, et al.

Examiner
JOSEPH THOMAS

Group Art Unit
2747



☒ Responsive to communication(s) filed on Mar 17, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 (THREE) month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-4 and 6-21 ~~are~~ are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-4 and 6-21 ~~are~~ are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 14

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Notice to Applicant

1. This communication is in response to the amendment filed 3/17/00. Claims 1-4 and 6-20 remain pending. Claims 1 and 11 have been amended. Claim 5 has been canceled. Claim 21 is newly added.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 and 6-21 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Lakritz (5,586,198) in view of Kumai, et al. (5,634,134) and Freeman (5,649,223).

(A) As per amended claim 1, Lakritz discloses a method and apparatus for identifying characters in an ideographic alphabet (Lakritz; abstract), comprising:

a mouse (25) (reads on "means for input") for dragging and selecting from the group consisting of a stroke, a radical (reads on "component"), and a character that match a specified criteria (Lakritz; col. 5, line 61 to col. 6, line 18 and col. 6, line 66 to col. 7, line 9) as well as a selection window (14) having a scrollable display of ideographic strokes, radicals, and/or characters for the user to select (Lakritz; col. 7, line 66 to col. 8, line 15);

a database (30) that encodes and stores a graphical representation of each individual character in a character set of an ideographic language, such as Chinese (Lakritz; col. 4, lines 29-32; col. 7, lines 14-34; col. 10, lines 1-30; col. 11, lines 51-53; and col. 12, lines 46-48);

a backend processor (22) that enables the user to manipulate characters from the encoding database (30) on a canvas (12) according to sectors and strokes and to store them for easy access and retrieval from a character set shown on the display screen (24) or registered on the palette (10) (Lakritz; col. 6,

line 51 to col. 10, line 30; and figs. 4-9); and

a display screen (24) having a palette (10) and a canvas (12) on which radicals and strokes are positioned and edited (Lakritz; col. 5, lines 34 to col. 60 and col. 6, lines 19-50 and fig. 4), wherein actions on the canvas queries the database and brings up a list of matching characters on the screen which can be further limited by specifying qualifying parameters (Lakritz; col. 5, line 62 to col. 6, line 4 and col. 7, line 35 to col. 8, line 38).

As per the storage of data related to Chinese characters including (1) the identification and order of strokes used to write characters; (2) the frequency of occurrence of each character; and (3) the orthographic components of characters, Lakritz's palette (10) of 82 radicals are arranged (i.e., classified) according to the number of strokes. The individual strokes are arranged in a matrix and placed in a separate cell. The number of strokes is utilized as a filter to specify parameters to constrain a search for ideographic characters (Lakritz; col. 6, line 66 to col. 7, line 13 and col. 7, lines 35-39). Lakritz further discloses assigning radical IDs and sector numbers for indicating the position information of an ideographic character (Lakritz; col. 9, lines 5-67). Lakritz fails to specifically teach the use of frequency of occurrence of a character as a first character, *per se*. However, frequency of

occurrence is a well-known parameter for determining the likelihood of an ideographic character, as evidenced by Kumai. Please see col. 10, line 6 to col. 17, line 15 of Kumai. In addition, Freeman discloses the inputting of consonant-vowel letter of sound combinations (reads on "orthographic components") as well as the number of strokes, radicals, and starting strokes of ideographic characters. Further, Freeman suggests the use of sets of likely next words as a follow-up to inputs for text entry, since the Chinese language has few inflections (Freeman; col. 16, line 52 to col. 17, line 2).

One having ordinary skill in the art at the time of the invention would have found it obvious to include the above teachings disclosed by Kumai and Freeman within Lakritz's system with the motivation of judging the likelihood values of user-input keys and carrying out processing based on the result of the judgment so that the result intended by the user is obtained (Kumai; col. 4, lines 4-26) and of guiding the user or the beginner to inputs for any letter/character/word in a language, thereby minimizing the number of inputs required (Freeman; col. 5, lines 56-58).

(B) As per claims 2-4 and 14, Lakritz fails to teach the use of a touch screen and/or a virtual keyboard. However, these input devices are well known in the text processing arts, as evidenced

by Freeman. In particular, Freeman discloses the use of inputs systems such as a keyboard, a touch sensitive screen, and a virtual keyboard to enter in text in languages such as Chinese, Japanese, and other non-alphabetic languages (Freeman; col. 1, lines 23-31; col. 7, lines 15-40; col. 16, line 52 to col. 17, line 2; col. 19, lines 41-53; col. 22, line 54 to col. 23, line 59). As per the recitation of a more key and a wild card key, note Freeman's teachings with respect to a satellite keys and reference keys (Freeman; col. 15, line 24 to col. 16, line 4), and particularly as it applies to inputting text in languages such as Chinese, Japanese, and other non-alphabetic languages (Freeman; col. 16, line 52 to col. 17, line 2).

One having ordinary skill in the art at the time of the invention would have found it obvious to include the input devices disclosed by Freeman within Lakritz's system with the motivation of enabling rapid and easy input of text and/or data for any application, for people without keyboard skills as well as for people with typing skills (Freeman; col. 3, lines 43-55 and col. 5, lines 49-55).

(C) As per claim 6, Lakritz's palette (10) of 82 radicals are arranged (i.e., classified) according to the number of strokes. The individual strokes are arranged in a matrix and placed in a separate cell. The number of strokes is utilized as a filter to

specify parameters to constrain a search for ideographic characters (Lakritz; col. 6, line 66 to col. 7, line 13 and col. 7, lines 35-39). Lakritz further discloses assigning radical IDs and sector numbers for indicating the position information of an ideographic character (Lakritz; col. 9, lines 5-67). Lakritz fails to specifically teach the use of frequency of occurrence of a character as a first character. However, frequency of occurrence is a well-known parameter for determining the likelihood of an ideographic character, as evidenced by Kumai. Please see col. 10, line 6 to col. 17, line 15 of Kumai. In addition, Freeman discloses the inputting of consonant-vowel letter of sound combinations (reads on "orthographic components") as well as the number of strokes, radicals, and starting strokes of ideographic characters. Further, Freeman suggests the use of sets of likely next words as a follow-up to inputs for text entry, since the Chinese language has few inflections (Freeman; col. 16, line 52 to col. 17, line 2).

One having ordinary skill in the art at the time of the invention would have found it obvious to include the teachings disclosed by Kumai and Freeman within Lakritz's system with the motivation of judging the likelihood values of user-input keys and carrying out processing based on the result of the judgment so that the result intended by the user is obtained (Kumai; col. 4, lines 4-26) and of guiding the user or the beginner to inputs

for any letter/character/word in a language, thereby minimizing the number of inputs required (Freeman; col. 5, lines 56-58).

(D) As per claims 7-10, Lakritz clearly teaches that strokes are combined to form radicals, and that radicals in turn form characters and that radicals are arranged by number of strokes (Lakritz; col. 6, line 66 to col. 7, line 20). Lakritz further discloses an analysis engine that analyzes radicals according to attribute filters and outputs a set of ideographic characters that match the given constraints, wherein the analysis engine can recognize partial characters from a minimum combination of character radicals (Lakritz; col. 8, lines 38-50). As per the recitation of orthographic components, Freeman discloses the inputting of consonant-vowel letter of sound combinations (reads on "orthographic components") as well as the number of strokes, radicals, and starting strokes of ideographic characters.

As per the use of the "frequency of occurrence" and "cumulative frequencies", note the teachings of Kumai with respect to judging the likelihood values of user-input keys and/or the frequency of occurrence of characters and carrying out processing based on the result of the judgment so that the result intended by the user is obtained (Kumai; col. 4, lines 4-26 and col. 10, line 6 to col. 17, line 15). In addition, Lakritz suggests adjusting focus, grade, and filters to further constrain

the search for a desired character according to user preferences (Lakritz; col. 10, line 41 to col. 11, line 4 and col. 11, line 11, lines 36-43). Furthermore, Lakritz provides the user flexibility in self registering radicals, thereby enabling the operator to customize his use of characters (Lakritz; col. 7, lines 53-65).

The motivation for combining the respect teachings of Lakritz, Kumai, and Freeman, is as given above in the rejection of amended claim 1, and incorporated herein.

(E) As per amended claim 11, Lakritz teaches inputting Chinese characters into a word processor or other application program of a machine, comprising the steps of:

- (a) inputting an initial radical (reads on "selection") (Lakritz; col. 5, line 54 to col. 6, line 4);
- (b) displaying a list of matching characters or radicals on screen for the user's review (Lakritz; col. 5, line 54 to col. 6, line 4);
- (c) selecting a character or radical or a further stroke until the entire character is formed (Lakritz; col. 6, lines 5-18 & 33-51); and
- (d) repeating the above steps until the specific or complete form of the desired character is constructed (Lakritz; col. 6, lines 5-18 and col. 10, lines 1-30), wherein an analysis engine

analyzes radicals according to attribute filters and outputs a set of ideographic characters that match the given constraints and even recognizes partial characters (reads on "non-word associated" characters) from a minimum combination of character radicals (Lakritz; col. 8, lines 38-50).

It is not clear from Lakritz whether or not the initial radical (or other further selected radicals) selected by the user comprises one of a displayed component, stroke, and wildcard, *per se*. However, Lakritz's palette (10) of 82 radicals are arranged (i.e., classified) and displayed according to the number of strokes. The individual strokes are arranged in a matrix and placed in a separate cell. The number of strokes is utilized as a filter to specify parameters to constrain a search for ideographic characters (Lakritz; col. 6, line 66 to col. 7, line 13 and col. 7, lines 35-39). Lakritz further discloses assigning radical IDs and sector numbers for indicating the position information of an ideographic character (Lakritz; col. 9, lines 5-67).

Moreover, the frequency of occurrence is a well-known parameter for determining the likelihood of an ideographic character, as evidenced by Kumai. Please see col. 10, line 6 to col. 17, line 15 of Kumai. In addition, Freeman discloses the inputting of consonant-vowel letter of sound combinations as well as the number of strokes, radicals, and starting strokes of

ideographic characters. Further, Freeman suggests the use of sets of likely next words as a follow-up to inputs for text entry, since the Chinese language has few inflections (Freeman; col. 16, line 52 to col. 17, line 2).

One having ordinary skill in the art at the time of the invention would have found it obvious to include the above teachings disclosed by Kumai and Freeman within Lakritz's system with the motivation of judging the likelihood values of user-input keys and carrying out processing based on the result of the judgment so that the result intended by the user is obtained (Kumai; col. 4, lines 4-26) and of guiding the user or the beginner to inputs for any letter/character/word in a language, thereby minimizing the number of inputs required (Freeman; col. 5, lines 56-58).

Further, insofar as Applicant recites "comprising one of a displayed component, stroke, and wildcard" at steps (a) and (c) of claim 11, it is irrelevant whether or not Lakritz, Kumai, and Freeman also disclose wildcards to represent character selections, *per se*, since Applicant uses alternative limitations in reciting the claim.

(F) As per claim 12, Lakritz fails to expressly disclose the automatic appending of a word separator upon selection of a character. However, this is well known in the art, as evidenced

by Freeman. In particular, Freeman teaches that "selected words, with or without inflections, are outputted by input actions which may append 'Space' or other punctuation endings" (Freeman; abstract, lines 13-17 and col. 5, lines 6-18).

The motivation for combining the respective teachings of Lakritz and Freeman is as given above in the rejection of amended claim 1 and in the rejection of claims 2-4 and 14, and incorporated herein.

(G) Method claims 13 and 15-20 repeats the apparatus elements recited in claims 1 and 6-10, respectively. As the features of claims 1 and 6-10 have been shown to be taught by or obvious in view of Lakritz, Kumai, and Freeman, it is readily apparent that the apparatus disclosed by Lakritz, Kumai, and Freeman, performs the recited underlying functions. As such, these limitations are rejected for the same reasons given above for apparatus claims 1 and 5-10.

(H) As per newly added claim 21, Lakritz's palette (10) of 82 radicals are arranged (i.e., classified) according to the number of strokes. The individual strokes are arranged in a matrix and placed in a separate cell. The number of strokes is utilized as a filter to specify parameters to constrain a search for ideographic characters (Lakritz; col. 6, line 66 to col. 7, line

13 and col. 7, lines 35-39). Lakritz further discloses assigning radical IDs and sector numbers for indicating the position information of an ideographic character (Lakritz; col. 9, lines 5-67). As such, it is readily apparent that Lakritz uses stroke numbers, radical ID's, and sector numbers as indicators of a character's membership within various subsets of Chinese characters.

Response to Arguments

5. Applicant's arguments filed 3/17/00 have been fully considered but they are not persuasive. Applicant's arguments will be addressed hereinbelow in the order in which they appear in the response filed 3/17/00.

(A) At pages 7-8 of the 3/17/00 response, Applicant argues the rejections of claims 1, 11 and 13 under 35 U.S.C. 102(e) by Lakritz.

In response, this argument is moot as the Examiner has withdrawn the rejection under 35 U.S.C. 102(e).

(B) At pages 9-14 of the 3/17/00 response, Applicant argues the rejections made under 35 U.S.C. 103 based on the teachings of Lakritz, Freeman, and Kumai, and addresses each reference separately in a piecemeal manner.

In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In addition, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Further, Applicant's remarks at page 12 of the 3/17/00 with regard to Freeman's concept of inflection codes to decompose Chinese characters as being "flawed" and "invalid" appears to lack evidence, especially when considering Freeman's statements at col. 16, line 52 to col. 17, line 2 of Freeman. In particular, 37 CFR 1.111(b) states, "A general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the reference does not comply with the requirements of this section." Also, arguments or conclusions of

Attorney cannot take the place of evidence. *In re Cole*, 51 CCPA 919, 326 F.2d 769, 140 USPQ 230 (1964); *In re Schulze*, 52 CCPA 1422, 346 F.2d 600, 145 USPQ 716 (1965); *Mertizner v. Mindick*, 549 F.2d 775, 193 USPQ 17 (CCPA 1977).

In response to Applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which Applicant relies (i.e., creating ideographical data using the minimal keypad and minimal display found in a wireless phone; the limited display area of a cell phone; the use of sub-particles of Radicals or BuShou; and the use of Han character set) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the examples relied on by Applicant as distinctions over the applied prior art in the 3/17/00 response fail to provide a clear nexus to the recited claim limitations. For example, Applicant's remarks with respect to the break-up of the word "commentary" at the paragraph bridging pages 10-11 of the 3/17/00 response and the unavailability of the character "yi" at the first full paragraph of page 12 of the 3/17/00 response appear to be disassociated from Applicant's invention, as presently claimed. In other words, what specific claim language does Applicant rely on to

avoid the alleged problems of the prior art, such as "commentary" and the "yi" character?

Furthermore, the Examiner recognizes that references cannot be arbitrarily altered or modified and that there must be some reason why one skilled in the art would be motivated to make the proposed modifications. And although the motivation or suggestion to make modifications must be articulated, it is respectfully submitted that there is no requirement that the motivation to make modifications must be expressly articulated within the references themselves. References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures, *In re Bozek*, 163 USPQ 545 (CCPA 1969). The issue of obviousness is not determined by what the references expressly state but by what they would reasonably suggest to one of ordinary skill in the art, as supported by decisions in *In re DeLisle* 406 Fed 1326, 160 USPQ 806; *In re Kell, Terry and Davies* 208 USPQ 871; and *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988) (citing *In re Lalu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)). Further, it was determined in *In re Lamberti et al*, 192 USPQ 278 (CCPA) that:

- (i) obviousness does not require absolute predictability;
- (ii) non-preferred embodiments of prior art must also be considered; and
- (iii) the question is not express teaching of references,

but what they would suggest.

According to *In re Jacoby*, 135 USPQ 317 (CCPA 1962), the skilled artisan is presumed to know something more about the art than only what is disclosed in the applied references. In *In re Bode*, 193 USPQ 12 (CCPA 1977), every reference relies to some extent on knowledge of persons skilled in the art to complement that which is disclosed therein.

According to *Ex parte Berins*, 168 USPQ 374 (Bd. Appeals), there is no statutory limitation as to the number of references that may be used to demonstrate obviousness...not what references expressly state but what they would reasonably suggest to one of ordinary skill in the art. In *In re Conrad*, 169 USPQ 170 (CCPA), obviousness is not based on express suggestion, but what references taken collectively would suggest.

In the instant case, the Examiner respectfully notes that each and every motivation to combine the Lakritz, Kumai, and Freeman references is accompanied by select portions of the respective reference(s) which specifically support that particular motivation. As such, it is NOT seen that the Examiner's combination of references is unsupported by the applied prior art of record. Rather, it is respectfully submitted that explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness has been

adequately provided by the motivations and reasons indicated by the Examiner, *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter., 4/22/93).

In addition, the newly added limitations which Applicant disputes as missing in the applied reference has been fully addressed by the Examiner as either being fully disclosed or obvious in view of the collective teachings of Lakritz, Kumai, and Freeman based on the logic and sound scientific reasoning of one ordinarily skilled in the art at the time of the invention, as detailed in the remarks and explanations given in the preceding sections of the present Office Action, and incorporated herein. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

As such, it is respectfully submitted that Applicant appears to view the applied references, separately and in a vacuum, without considering the knowledge of average skill in the art, and further fails to appreciate the breadth of the claim language that is presently recited.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of

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rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. **Any response to this final action should be mailed to:**

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-6306

Or:

(703) 308-6296

For formal communications, please mark "EXPEDITED PROCEDURE".

For informal or draft communications, please label "PROPOSED" or "DRAFT" on the front page of the communication, and do NOT sign the communication.

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

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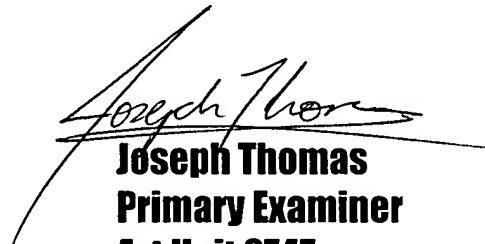
-20-

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Thomas, whose telephone number is (703) 305-9588. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 5:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiners' supervisor, Forester W. Isen, can be reached at (703) 305-4386.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

jt
June 2, 2000


Joseph Thomas
Primary Examiner
Art Unit 2747